EDINBURGH AIRPORT

FLYING HIGH ON THE WINDS OF CHANGE

Enabling 37 airlines to transport 14.7 million passengers to 158 global destinations every year, Edinburgh Airport is the busiest airport in Scotland, and the sixth busiest in the UK. As passenger numbers rapidly grew and existing IT infrastructure became increasingly complicated and constrained, Edinburgh Airport looked to the future. CAE was there to support its plans as they took flight.

When Global Infrastructure Partners (GIP) took ownership of Edinburgh Airport in 2012, they faced rapid, sustained and sometimes unexpected growth, with passenger numbers increasing by up to one million per year. As the existing infrastructure began to feel the strain, GIP committed to a £150 million investment and created its 2016-2040 Masterplan, a forward-thinking document that focused on innovation, development, and opportunity across the entire business. Part of this long-term vision was to modernise the way IT services are delivered and consumed at the airport in preparation for future requirements.

Planning the journey

Outdated hardware, a complex configuration and wireless capacity issues were beginning to cause problems with the provision of services to third parties, who make up a large part of any airport's IT estate. From airlines to cargo services, baggage handlers, and ground services, Edinburgh Airport's IT team needed to offer quick and easy provision of service, which the existing network was unable to support. Instead, time consuming manual processes and scheduling of frequent change windows were slowing them down.

Additionally, the airport had a specific fibre topology that had to be adhered to, making it difficult to upgrade hardware. Resilience was critical, as airport downtime and grounded flights result in huge financial penalties.

"What we are doing is amazing in the network project with CAE. Edinburgh Airport has an old, complex, and difficult to manage network. Working with CAE we've designed, built, and implemented a new network using cutting edge Cisco technology. We've worked very closely with CAE to design and implement that. We wanted a technology partner that we can trust and work closely with and CAE is an incredible partner for us. Their technical skill and level of understanding are phenomenal."
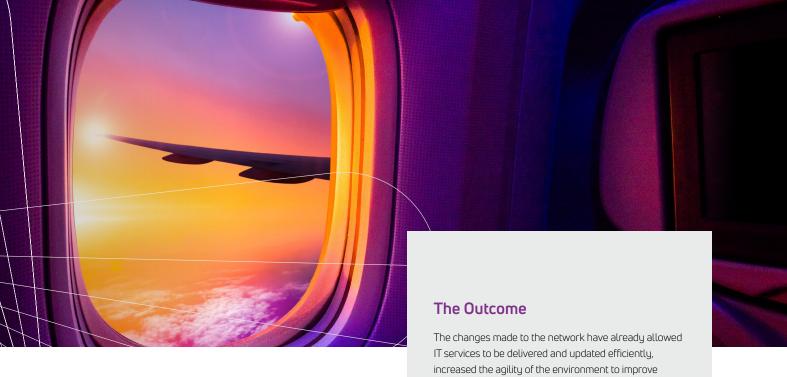
- Denis McIlroy Head of IT

Edinburgh Airport took the opportunity to learn from the developments already experienced at its sister airport, Gatwick, which included preparing the way for emerging AI applications such as autonomous cars. AI would require additional data transmission that the existing network infrastructure wasn't able to support and poses a more complex security threat across increased attack surfaces.

Identifying the right destination

Edinburgh Airport spotted an opportunity to not only support the business in meeting future requirements, but to monetise the new improved network. By offering third parties the opportunity to run their own internal technology and customer Wi-Fi from the improved network, revenue could be gained back from the airport's investment. As well as improving ROI, supplying all third parties with internet connectivity simplified the system, removing the need for many disparate connections.

Together, CAE and Edinburgh Airport identified this project as a strategic opportunity to deliver a Software Defined Network (SDN) which was centralised, simplified, and secured campus wide. With a 10-year timeline for use and ROI, the refresh began in 2019, and CAE advised that not adopting SDN at the point of the proposal risked falling behind the industry standard.

Negotiating turbulence

Soon after the project began, the COVID pandemic hit the UK, which had a devastating effect on the airline industry. From handling 14.7 million passengers in 2019, 2020 saw fewer than 3.5 million – a drop of 76%. The airport was completely closed for a time, meaning the project was paused for six-months, and many IT staff were furloughed.

CAE offered flexibility when working through this difficult financial period, continuing to push the project forward in a way that was risk averse enough for the airport, but still accelerated the project timeline. By taking advantage of longer, less precarious change windows due to fewer flights, much of the six-months that had been lost was gained back.

A partnership approach

As businesses, Edinburgh Airport and CAE have a common goal of delivering outstanding service to customers, and both highly value responsibility and accountability. Upon this foundation, CAE were able to effectively support the wider network strategy and Edinburgh Airport's internal technical capability, developing a strong and successful partnership. The CAE team assigned to work alongside the airport staff has not changed since the very beginning of the project, and with many airport IT staff still furloughed, CAE's ongoing insights into their internal IT operations are more valuable than ever.

Following delivery of the solution, Edinburgh identified a need for a managed service provider to support future business development and growth. In a fast moving and rapidly changing environment, adaptability and agility were required to drive efficiencies and streamline operations. This was a unique opportunity for CAE to act as an extension of the airport's team, focusing on standardisation, simplification, and centralising IT operations to deliver benefits extending across the entire airport, 3rd parties and customer experience.

The Outcome

The changes made to the network have already allowed IT services to be delivered and updated efficiently, increased the agility of the environment to improve service delivery, and enabled Edinburgh Airport to deploy and integrate third party solutions in hours not days.

Simplifying the systems has been crucial following staff cuts and shortages due to furlough, making it easier for the remaining small team to operate. Changes are now made with the click of a button instead of requiring pages of code.

Flying into the future

The new network enhances the passenger experience with consistent, reliable customer Wi-Fi, Bluetooth beaconing, and airport wayfinding tools.

In the future, there is significant abstracted value Edinburgh Airport can offer retailers over the top of the network. They will be empowered to provide insights over time and better understand people's behaviour patterns which can provide context to retailers and hospitality venues, or trigger actions in other systems. There are several relevant use cases, from social distancing and occupancy monitoring to customer engagement and digital signage.